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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,885	06/21/2001	Grant H. McGibney	266P004	6122

7590 01/05/2005

Mr. Marc D. Machtinger, Esq.
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Buffalo Grove, IL 60089-2073

EXAMINER

PHAN, MAN U

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,885

Applicant(s)

MCGIBNEY, GRANT H.

Examiner

Man Phan

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/08/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The application of McGibney for a "Centralized synchronization for wireless networks" filed 06/21/2001 has been examined. This application claims foreign priority based on the application 2,347,927 filed May 16, 2001 in Canada. It is noted, however, that applicant has not filed a certified copy of the CANADA 2,347,927 application as required by 35 U.S.C. 119(b). Claims 1-19 are pending in the application.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC ' 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (US#6,208,871) in view of Bortolini et al. (US#6,163,549).

With respect to claims 16, 17, Hall et al. (US#6,208,871) discloses a novel system and method for synchronizing timing in a wireless communication system, according to the essential features of the claims. Hall et al. (US#6,208,871) provides a time adjustment to a base transceiver station from a mobile station, in order to synchronize the base transceiver station to the wireless communication system reference time (Col. 3, lines 17 plus). Hall teaches in Fig. 3 a flow chart illustrated a method for providing time adjustment to wireless communication system 100, in which at block 324, random mobile station 103 determines a timing adjustment calculation based on the first time offset of the first signal from the first base transceiver station and the second time offset of the second signal from the second base transceiver station. First, a controller in random mobile station 103 calculates a time offset difference between the first and second PN short code time offsets resulting from the identity, to form a desired time offset. The controller then calculates a difference between the first time offset and the second time offset to form a measured time offset. Finally, the controller compares the desired time offset to the measured time offset to determine a timing adjustment calculation (Col. 6, lines 24 plus).

However, Hall et al. does not expressly disclose a vernier signal generator connected to supply a vernier signal (*the main clock or time base is assumed to be stable*) to the transmitter. In the same field of endeavor, Bortolini et al. (US#6,163,549) discloses a the synchronization of a timing unit to an external link. Bortolini teaches an apparatus and method in which local timing units synchronized to a centralized timing unit determine the difference in timing between external links and the local timing units. This difference in timing is then transmitted to the

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central timing unit, which utilizes this information to adjust the timing of the central timing unit. Advantageously, the adjustment to the central timing unit brings it into synchronization with the selected external link. Advantageously, the local timing units are synchronized to the central timing unit via multiple timing paths set up through switching units within the network. Each switching unit switches one bit of data for each group of data being received on each of the external links. In addition, information received by each of the external links designating the accuracy of the external link is transmitted to the central timing unit so that the central timing unit can select the external link having the highest accuracy.

One skilled in the art would have recognized the need for effectively and efficiently synchronizing a base oscillator to a remote oscillator, and would have applied Bortoloni's synchronization of a timing unit to an external link into Hall's teaching of timing synchronization between a base oscillator and remote oscillator. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Bortolini's synchronizing a central timing unit to an external link via a switching network into Hall's method and apparatus for providing a time adjustment to a wireless communication system with the motivation being to provide a centralized synchronization for wireless networks

Allowable Subject Matter

5. Claims 1-15 and 18, 19 are allowable

6. The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein an equalization controller connected to the pre-equalizer filter to provide radio channel corrections and a timing advance to signals transmitted from the base station and connected to the post-equalizer filter to provide radio channel corrections and a timing advance to signals received from the terminal; a synchronization controller connected to receive frame position information from the frame counter and being configured to determine a timing advance required to adjust the base oscillator to be synchronized to the remote oscillator, the synchronization controller being connected to supply the timing advance to the equalization controller; and the synchronization controller being configured to generate a vernier signal, in which the vernier signal comprises successive time segments, each time segment being offset in time from a multiple of the remote sample period by different multiples of a fraction of the remote sample period, as expressly recited in claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Fukuda (US#5,995,844) is cited to show the wireless telephone system.

The Langston et al. (US#212,397) is cited to show the method and system for controlling remote multipoint stations.

The Weir et al. (US#5,960,331) is cited to show the device and method for maintaining synchronization and frequency stability in a wireless telecommunication system.

The Ossoinig et al. (US#6,112,100) is cited to show the method and apparatus for synchronizing a base station in a communication system.

The Walsh (US#6,308,077) is cited to show the apparatus and method for providing synchronization of base stations in a communication system.

The Ruffini (US#6,711,411) is cited to show the management of synchronization network.

The Eisenack (US#5,412,689) is cited to show the process for the preparation of the connection of one of several data processor devices to a centrally synchronized multiple line

The Tikalsky (US#5,875,179) is cited to show the method and apparatus for synchronized communication over wireless backbone architecture.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

9. *Any response to this action should be mailed to:*

Commissioner of Patents and Trademarks: Washington, D.C. 20231

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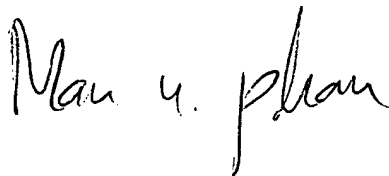
or faxed to: (703) 305-9051, (for formal communications intended for entry)

Or: (703) 305-3988 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Mphan

12/30/2004.

A handwritten signature in cursive script that reads "Man u. phan".

MAN U. PHAN
PRIMARY EXAMINER